IDA Working Paper No. 74

Why Do People Migrate? Internal Migration and the Pattern of Capital Accumulation in Bolivia

by

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January 1991

This paper is produced by the Institute for Development Anthropology and reports on work supported by the Cooperative Agreement on Systems Approach to Regional Income and Sustainable Resource Assistance (SARSA) No. DHR 5452-A-00-9083-00, at Clark University, the Institute for Development Anthropology, and Virginia Polytechnic Institute and State University, funded by the U.S. Agency for International Development, Bureau for Science and Technology, Office of Rural and Institutional Development, Division of Rural and Regional Development. The views and interpretations herein are those of the authors and should not be attributed to the Agency for International Development or to any individual acting on its behalf.

Introduction[1]

Bolivia's economic growth and population dynamics have become entangled with the fate of coca and cocaine production in the last 15 years. The value of cocaine exports, frequently at least as high as that of the legal exports in the 1980s, amounted to 200 percent and 196 percent of legal exports in 1984 and 1987. The contribution of cocaine exports to the economy of Bolivia for the selected years of 1984, 1985, 1987, and 1989 was an estimated US$4,476 million, while legal exports during the same years came to US$3,000 million (De Franco and Godoy 1990:13). Coca production mobilized some 120,000 laborers throughout the country in the late 1980s, roughly 6 percent of the economically active population (Healy 1986:106; MacDonald 1989:67; Sanabria 1989:77; UDAPE 1990). Most of this labor force has operated in the Chapare region of the Department of Cochabamba, in central Bolivia, where over 95 percent of the country's coca is produced.[2] Coca production has increased in Chapare from 3,300 ha in 1960, to 35,000 in 1975, to 70,000 in 1989 (CEDIB 1990), an expansion that has lured large contingents of laborers.

Migration to Chapare is not new. The state encouraged land settlement there as well as in other tropical zones after losing 15 million ha (i.e., 25 percent) of its humid tropical forest to Brazil in the aftermath of the Acre War (1899-1903)—a loss perceived as resulting from underpopulation of, and underinvestment in, the tropics (Hecht and Cockburn 1990). The state sponsored the settlement of medium-size farms by national and foreign farmers in Chapare during the first half of this century (CIDRE 1990; Weil 1980), and small farms after the 1952 revolution. The migratory flow continued to be modest, however, even during the 1960s when the state opened roads improved with funds from USAID (Weil 1980:81). Only in the 1970s and 1980s did the population grow dramatically. Encouraged by the expansion of the coca economy, the permanent population in Chapare grew from approximately 25,000 in 1967 to some 350,000 in 1989.

Coca production is directly related to population dynamics because of the production arrangements under which coca is cultivated. It is highly labor intensive and takes place in a myriad of small plots averaging 0.9 ha and scattered throughout the region. There is not one single zone or farm in Chapare where coca production is carried out like a plantation, i.e., large-scale cultivation of one single crop. Also, increases in total coca production depend chiefly on expansion of the area under cultivation.[3] Chapare was underpopulated until recently. The

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[1]I am very grateful for ideas and comments from Drs. Elaine Brown, Michael Painter, and Sylvia Horowitz.

[2]The term "Chapare" is commonly used as an abbreviation for the combined tropical area of the *provincias* Carrasco, Chapare, and Tiraque.

[3]There is a lack of systematic information on the response of coca to fertilization, because the experiment stations in the Bolivian tropics are not allowed by the government to engage in agronomic trials on coca. Virtually all Chapare farmers use chemical fertilizers in coca fields, but there is no way to know whether a ceiling has already been reached for coca yield increases

demand for laborers who would produce coca was met with the immigration of workers from the highlands and valleys in the country.

This paper examines the context of labor migration into Chapare and the development interventions designed to halt it. Planners of institutional schemes to curtail it (including land settlement in other tropical zones of the country) must understand that Chapare is just one of many destination points. The economic underdevelopment that encourages laborers to migrate into Chapare must be corrected not only within Chapare, but beyond its geographic confines. Both agricultural and extra-agricultural enterprises must be developed.

A brief overview of internal migration in Bolivia will facilitate an understanding of the social and economic dynamics of migration to Chapare. Migration is a prominent feature of Bolivian society. According to the 1976 Census, one out of four Bolivians over five years old had migrated to another province at least once. Of the population of Cochabamba, over 40 percent had migrated at least once before 1983, and almost 50 percent before 1988 (Ledo 1990:99). Individuals and families migrate usually for economic reasons. It has been the mechanism for Bolivians from all social sectors to adapt to the opening of economic opportunities whether in their zones of origin, in other regions of the country, or abroad. People migrate wherever and whenever there are (and cease to be) job opportunities.

Migration patterns reflect the precarious, short-lasting, and unequal nature of regional development in Bolivia. The migratory flows have crisscrossed the national territory. Of the two or three destination points reigning at any given time, most have been replaced by others over the decades. These characteristics are not capriciously defined by individual migrants. Rather, they describe the economic conditions under which migrants operate.

An unsustainable small-scale agricultural production system in highlands and valleys (where larger populations are concentrated) makes the land base increasingly precarious. At the same time, farmers are more integrated into the market but under unfavorable trade terms. Finally, there is a shortage of rural sources of wage employment with which to supplement the farmers' domestic economy. These conditions are grounded in the agricultural and nonagricultural development policies that the state has consistently adopted regardless of the administrations. It is state policies that cause temporary or permanent outmigration.

At the macro-level, flows of migration reflect the movement and life span of capital investment and employment opportunities in the country. Given the pattern of capital

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under present farmer fertilization practices. Ample evidence exists of a careful agronomic management system for coca fields, which is widely adopted by farmers. Weed control with chemical defoliants has an important role in this system, and so has individual plant selection. Variety selection, however, seems to be relatively unimportant. Most farmers I interviewed claimed to cultivate only Vandiola coca. I do not know whether Vandiola coca in fact encompasses more than one variety.

accumulation in Bolivia, internal migration is likely to increase. Bolivia's present economic recession and regional disarticulation results from a historical pattern of capital formation, at the root of which is a lack of coherent national development policies. Development interventions designed to correct the causes of outmigration must involve changes in macro-economic policies concerning food security, wage levels for urban workers, and the terms of trade between cities and the countryside.

Although most national and international attention has recently been centered around Chapare population dynamics, it is the large cities rather than Chapare that have received most migration in Bolivia. Rural-to-urban migration is more common than rural-to-rural migration. Urban growth is greater than rural growth, largely as a result of migration, and especially migration within the different zones in the country, i.e., highland rural to highland urban, valley and lowland rural to valley and lowland urban. Land settlement areas and areas of agroindustrial development (including Chapare) are the second most important destination points after cities.

Any long-lasting measure to curtail migration to Chapare requires the creation of economic opportunities in Bolivian cities. People from the countryside move to where they perceive jobs are, i.e., mainly to cities. Soon thereafter, however, they find out that economic opportunities may be more readily available in cities than in rural areas, but that these opportunities often provide the immigrants only enough income to make a very modest living. Unemployment, whether temporary or permanent, is common among immigrants to cities. Some immigrants join the ranks of impoverished laborers. Some others move again to other cities or to areas of agroindustrial development, where, again, it is expected that jobs will be available. Given the fact that natural population growth in rural areas often already exceeds the capacity of farms to absorb laborers, long term development in the country necessarily requires providing stable and well-paid jobs in the cities. In the medium to long run, agricultural development must be accompanied with urban industrial development.

The Importance of Migration to Urban Centers

Land settlement in the tropical lowlands has been highly publicized, but its overall contribution to the movement of population is minor. Although it has often been hailed as a way to reduce the demographic pressure on the more densely populated areas of the country (highlands and valleys), the figures on migration to the tropical lowlands represent less than 20 percent of the natural growth rate estimated for the populations of the highlands and valleys. Thus, land settlement has absorbed only one-fifth of the annual population growth of the densest areas of the country. The majority of farmers have migrated to cities or abroad (FIDA 1989a:xli).[4]

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[4]Land settlement destroys the forest. In the early 1980s, 27 percent of Bolivia's tropical forests were already under forest exploitation or agricultural production regimes. This percentage is one of the highest in South America. In contrast, in the same period, the exploitation of forest resources in Brazil amounted to 3 percent, in Colombia 2 percent, and in

In the Department of La Paz, the only areas with positive migration rates are Murillo province (where La Paz city is located) and the provinces of Yungas and Iturralde (areas of tropical colonization). In the Department of Cochabamba, the provinces that attract most migrants are Cercado province (where Cochabamba city is located), Quillacollo province (virtually an extension of the city) and Chapare and Carrasco provinces (land settlement areas). In the Department of Santa Cruz, the provinces where most migrants settle are Ibañez (the site of Santa Cruz city) and Warnes, Santiesteban, Ichilo, and Nuflo de Chavez (provinces with rapid agricultural development) (Table 1).

The last population census conducted in Bolivia dates from 1976. In the questionnaire, two different questions were asked. One was about migration at any time in the past; the other was specifically directed to ascertain migration within the previous five years. Through these questions, two groups of migrants were defined: migrants in general, and recent migrants. According to the data thus gathered, urban centers all over Bolivia have attracted a much greater volume of population than land settlement areas. In 1976, 44 percent of migration was rural to urban. This percentage was higher (49 percent) for those people who had migrated in the previous five years. Twenty-four percent of the migration was urban-urban (28 percent among the most recent migrants). Rural-to-rural migration (predominantly land settlement of tropical areas) represented 24 percent of migration, but only 13.6 percent of the most recent migration. In general terms, then, urban migration represented 63 percent of migration in the 1950s and 1960s, and 77.6 percent in the 1970s. Rural-bound migration, for its part, encompassed 36.5 percent of the migrants before 1970, but only 22.4 percent of them in the 1970s (Casanovas 1981:54).

Because the largest migration flows have been directed to the large cities and only secondarily to land settlement areas, while the country's population doubled from roughly 3 million in 1950 to 6 million in 1985, the urban population more than tripled in the same period (Table 2). In 1900, only 14.4 percent of the population lived in urban centers. This percentage increased to 27 percent in 1950, 42 percent in 1976, and nearly 50 percent in the late 1980s.

In 1900, 57 percent of the national urban population lived in the highlands. At that time, La Paz city contained 35 percent of that population, Cochabamba 13.9 percent and Sucre 13.3 percent. By 1976, although the urban concentration in the highlands decreased (54.2 percent), La Paz city continued to concentrate the largest share of the country's urban population. Actually, it increased its relative importance (44.4 percent). Santa Cruz (17.8 percent) and Cochabamba (14.3 percent) were the second and third largest cities, respectively, while Sucre occupied the sixth place.

Peru 9 percent. Bolivia's deforestation was comparable to Indonesia (30 percent of the total tropical forest area) and Burma (29 percent) (FAO, IMF, UN and World Bank Data, quoted in Toledo 1984:2).

Table 1. Classification of the Bolivian Provinces According to Recent Migration Rates (1971-1976)

Strong Expulsion $-5 > x$	Moderate Expulsion $-5 < x < 0$	Strong Attraction $0 < x < 5$	Moderate Attraction $x > 5$
BENI Yacuma	Itenez Gral. Ballivián Vaca Díez Mamoré	Cercado	Marbén Moxos
COCHABAMBA Punata Campero	Arque Arani Capinota Esteban Arze Tapacari Jordán Ayopaya Mizque	Quillacollo Chapare	Carrasco Cercado
CHUQUISACA Luis Calvo Tomina Azurduy	B. Boeto Nor Cinti Zudañez Sur Cinti	Oropeza Hernando Siles	
LA PAZ G. Villarroel Muñecas Franz Tamayo Manco Kapac B. Saavedra Omasuyos Camacho	Los Andes Inquisivi Pacajes Loayza Sur Yungas Aroma Ingavi Nor Yungas Larecaja	Nor Yungas	Murillo
ORURO Saucarí	P. Dalence Carangas Litoral Avaroa Sajama L. Cabrera	Cercado Poopó	Atahuallpa
PANDO		Abuná Gral. Román Manuripi	Madre de Dios N. Suarez
POTOSI	Nor Lípez Quijarro Daniel Campos Gral. Bilbao Charcas Chayanta Bustillo Sur Lípez Sur Chichas A. de Ibañez Tomás Frías Nor Chichas Linares		Omiste
SANTA CRUZ Vallegrande M.M. Caballero Cordillera Florida A. Sandoval	Velasco	Chiquitos Sarah	Warnes Santiesteban A. Ibañez Ichilo N. de Chávez
TARIJA	Avilés O'Connor Méndez		Arce Gran Chaco Cercado

Source: Casanovas 1981.

Table 2. Urban and Rural Population, 1950-1985

Year	Urban		Rural		Total
	(1000)	%	(1000)	%	(1000)
1950	787.0	26.54	2178.8	73.46	2965.8
1976	2096.4	41.74	2925.6	58.26	5022.0
1985	2983.8	48.25	3199.7	51.75	6183.5

The urban annual growth rates escalated from 0.4 percent in 1900 to 3.84 percent in the 1950-76 period and to 4.1 percent in the 1976-85 period (Table 3). Whereas in 1900 there were 29 urban centers of more than 2,000 inhabitants, in 1976 there were 100 such centers. Meanwhile, the rural population growth rate increased from 0.2 percent in 1900 to 1.14 percent in the 1950-76 period, but then decreased to 1 percent in the 1976-85 period, showing a strong net outmigration rate.

Table 3. Urban and Rural Population Growth Rates (%), 1950-1985

Period	Urban	Rural	Total
1950-76	3.84	1.14	2.07
1976-85*	4.10	1.00	2.40

*Estimates

Urban Concentration, Intrazone and Interzone Migration

In Bolivia, intrazone migration (within the confines of a given zone, whether highland, valley, or lowland) is greater than interzone migration. Within a zone, migration is oriented toward urban areas and is highest where urban growth has accelerated in the last decades. The gravitational cities for intrazone migration are La Paz in the highlands, Cochabamba in the valleys, and Santa Cruz in the lowlands.

The largest intrazone population movement can be found within the highlands. It centers around the metropolitan area of La Paz city, which attracts people mostly from within the Department of La Paz, but also from the Departments of Oruro and Potosí. In 1976, the total population of La Paz city was 654,715, of whom 38 percent had been born somewhere else. From this pool of migrants, 64 percent came from other provinces within the Department of La Paz, especially the highland provinces (Albó et al. 1981).

The metropolitan area of La Paz encompasses La Paz city, proper, and what is now the city of El Alto. Population growth resulting from intrazone migration is most conspicuous in El Alto, declared a city by the National Congress in 1988. El Alto had a population of 11,000 in 1950, which almost tripled by 1960 and increased almost sixfold by 1970. The largest population increment occurred between 1976 and 1986, at the end of which decade it was estimated at 356,514. Its 1950 population had multiplied by a factor of 32. Meanwhile, the number of El Alto neighborhoods (*villas*) had increased from 6 in 1950 to 178 in 1987 (Table 4). In 1987, El Alto was the fourth largest Bolivian city, after La Paz (pop. 897,925), Santa Cruz (704,163) and Cochabamba (491,236) (Sandóval and Sostres 1989). In 1985, 63 percent of El Alto's population was immigrant (Franqueville and Aguilar 1988). Within the group of migrants over 10 years old who lived in El Alto, 75 percent were originally from the Department of La Paz, mainly from the provinces of Ingavi, Pacajes, Los Andes, and Omasuyos. The remaining 25 percent came from the Department of Potosí and especially the Department of Oruro (SURPO 1988:187-191).

Table 4. Population in the Cities of La Paz and El Alto (in Thousands of Inhabitants)

Year	La Paz City (1)	El Alto City (2)	(2)/(1) %	Number of Neighborhoods
1950	321,063	11,000	3.4	6
1956	363,000	18,000	5.0	-
1960	433,856	30,000	6.9	11
1970	563,020	60,000	10.7	-
1976	635,283	95,434	15.0	78
1985	n.a.	223,239	n.a.	140
1986	n.a.	235,213	n.a.	170
1987	897,925	356,514	39.7	178

Source: Sandóval and Sostres 1989:63-64.

The second largest intrazone population movement takes place in the valleys. The epicenter here is the city of Cochabamba. The urban population of the Department of Cochabamba has increased from 7 percent in 1900, to 16.5 percent in 1950, to 28.2 percent in 1976. Between 1950 and 1976, the city's annual growth rate was 3.6 percent, and the growth rate of towns in the Department with over 2,000 inhabitants was even higher (3.9 percent).

The urban centers in the valleys are expanding at the expense of the rural provinces within the Department of Cochabamba. Between 1950 and 1976, the Department's average growth rate was 1.5 percent. The provinces of Campero, Ayopaya, Mizque, Arani, Quillacollo, and Chapare had a growth rate of 1.18 percent. The province of Carrasco grew at a slightly

faster pace (1.9 percent). Esteban Arze and Punata, on the other hand, had negative growth rates of -0.1 percent and -0.4 percent, respectively (Ledo 1990:75). This means that, in general, these provinces are barely keeping up with population growth.

In the rural provinces of the Department of Cochabamba a strong outmigration flows to the cities. The Cercado province (where the city of Cochabamba is located) attracts migrants, but the rest of the provinces have high outmigration rates. The provinces where migration is more pronounced are those in the so-called Valle Alto, that is, Punata (-7,857), Esteban Arze (-5,712), Arani (-5,064), and Arque (-4,085). Campero's migration rates (-3,068) are also considerable (García-Tornell and Querejazu 1984; Ledo 1990:97).

Migration and the Disintegration of the Peasant Economy

The circumstances that have motivated people to migrate away from their zones of origin are varied and largely depend on the social classes to which the potential migrants are ascribed. Migration has a different meaning for middle-class than for low-income groups, whether urban or rural. Migration to and from the city of Cochabamba, predominantly urban-urban (Ledo 1990), engages more members of the middle-class. Migration from the rest of the provinces of Cochabamba, both rural-urban and rural-rural, incorporates mostly low-income social groups. Migrants from both classes express social and economic needs as reasons to migrate. The most important difference between these two groups is that the expected economic benefit is probably perceived and actualized in a longer term for the middle-class migrant than for the low-income one. Migration in order to gain access to better schooling can be a long-term economic investment as well as the satisfaction of a social need.

For low-income rural migrants, the lack of access to land is the most important reason for outmigration. A constrained land tenure system in the valleys and highlands, unable to accommodate a rapid population growth and growing cash needs, forces people to migrate. Albó et al. point out that two-thirds of the migrants that they studied in La Paz did not have lands at the time of migration. Because land shortage is more acute in former haciendas than in *comunidades originarias*, which were autonomous during the colonial and post-independence period, more former hacienda peasants are represented in the La Paz migrant pool than *comunarios*, but it has become increasingly difficult for young adults to gain access to land in their zones of origin (Albó et al. 1981). Absolute land shortages, however, explain only a part of the migration process. Peasants also migrate because the productive capacity of the lands they own and cultivate are extremely limited. Fertility and yields spirally decline on smallholdings cultivated intensively and without the benefit of inputs or other improved technology.

Migration is, then, the result of the collapse of the peasant economy in the country. The loss of access to land, and the increasingly adverse conditions under which production takes place, signal this collapse. Farmers, unable to survive on their resources alone, must work harder to meet their needs. Land means food security and economic independence, and small-

scale farmers lack both. With peasant household resources already overtaxed, farmers cannot afford to sit idle while their economy deteriorates. Whenever they cannot meet their income and food needs in their zones of origin, they must go elsewhere to make up the difference. By necessity, therefore, the highland and valley farming systems increasingly encompass agricultural and extra-agricultural activities in places other than the farmers' communities.

The agrarian reform is at the root of this collapse. Begun in 1952 and still under way, the reform constitutes the state's most important agricultural policy. While it released farmers from bonded labor relations in the haciendas, it also fostered the development of a dualist agrarian economy with the highlands and valleys as one pole, and the tropical lowlands as the other. Roughly 10 million ha were affected by the reform from 1952 to 1969, and the beneficiaries were mostly small production unit (*minifundio*) farmers in the highlands and valleys. From 1971 to 1978, however, 17.8 million ha were distributed to owners of lowland, large production units (*latifundio*). In 1980, the productive units of 50 ha or less accounted for 93 percent of all units and had control over 7 percent of the productive land. Meanwhile, farms measuring 50 to 50,000 ha represented 7 percent of the total productive units, and covered 93 percent of the agricultural land (Urioste 1988:62, 79).

In the highlands and valleys, the agrarian reform consolidated a constrained and rigid *minifundio* system. The reform distributed land to the tillers but without providing them with credit support, technical assistance, or favorable exchange terms. The shortcomings resulting from reduced plot sizes have not been overcome by technological improvements to intensify production and to increase labor productivity. Land size became an absolute rather than a relative limiting factor for increased agricultural production. As a result, a new group of agricultural producers was generated in the highlands and valleys, whose main characteristics are the ownership of small plots of land, the operation of them mostly, if not exclusively, with family labor, low capital investment, and yet production of a large proportion of the national market's food goods. Most migrants are originally from these highland and valley farmer groups.

The agrarian reform increased the incorporation of highland and valley farmers into the Bolivian economy under conditions that have rendered small-scale agricultural production unprofitable and increasingly unviable. Landholdings are extremely fragmented. In 1979, 45 percent of the highland and valley farmers had ownership rights to plots of less than 3 ha, 77 percent had less than 10 ha, and 91 percent had less than 20 ha (Urioste 1988:78). Among the Chapare permanent migrants interviewed by the CERES team in 1989, 40 percent owned land in their home areas. Sixty-four percent of those who owned land, however, had less than 1 ha in their home communities, and an additional 28 percent had between 1 and 3 ha (Painter and Bedoya 1991:26). These data fully coincide with data found in the early 1980s by another CERES team (Blanes and Flores 1984:99-100). The terms of trade with the cities have constantly been unfavorable. The ratio of price for agricultural goods to price of agricultural inputs was 1.12 in 1976, 1.14 in 1978, 1.00 in 1980, but 0.26 in 1982 (Urioste 1988:94). Between 1963 and 1975, the price index of traditional food crops increased by 105 percent while

the price index of commercial crops increased by 595 percent (Laneuville 1980, in Flores 1984:481).

By contrast, in the lowlands, especially in Santa Cruz and Beni, the agrarian reform did not mean land redistribution, but land concentration. Since the 1950s, most of the public investment in agriculture has been concentrated in the development of large commercial agriculture in the tropical lowlands.[5] Public works, technological back-up, and price and tax support programs have been set up to benefit *latifundia* owners. The participation of large-scale farmers in loans given by the state agricultural bank was 96.5 percent of the total funds and 64.4 percent of the total number of loans granted in the 1960-1976 period, and 67.5 percent of the funds and 36 percent of the loans in the 1978-1983 period (FIDA 1989a:166).

A social and regional division of labor has ensued whereby small-scale highland and valley farmers specialize in the production of food, while large-scale commercial producers concentrate on crops with higher and faster returns. The small-scale farmers produce more food than large-scale lowland producers, but they often must endure no profits and implicit wages below market levels. Despite these adverse conditions, small farmers contribute 52 percent of the daily caloric consumption in Bolivia, and 73 percent of the calories of national origin (FIDA 1989a:xx). Large-scale commercial agriculture contributes importantly only with sugar (60 percent of national production), soy (50 percent), beef (50 percent), eggs (60 percent), and cow's milk (80 percent). The rest of the agricultural produce is mostly provided by small producers (FIDA 1989b:247-248), with their own labor, limited investment and, mostly, traditional planting technology.

By not providing small farmers with access to improved technologies for overcoming the progressive reduction of their land resource base, the government has forced them to intensify production and to specialize in order to meet their increasing needs for services and manufactured goods, and, as a result, to use land more continuously without replacing nutrients and minerals taken up by plants. The state's agricultural technology development policy, however, has been skewed toward large commercial producers. It has encouraged the development of mechanization rather than biochemical technology, and mechanization, because it saves labor and thus promotes economies of scale by reducing management needs (see Hayami and Ruttan 1971), is appropriate for large-scale, not small-scale agricultural production. Between 1949 and 1974, the average annual increase in the use of tractors in the country has been 21 percent (FAO Production Yearbook Data, in De Janvry 1983:172), but such growth in mechanization has taken place mostly in the lowlands. Meanwhile, the use of chemical fertilizers, herbicides, pesticides, and improved seed is still low all over the country. Fertilizers and improved genetic material are used by only 10 percent of lowland farmers, 12 percent of valley farmers, and 7 percent of highland producers (MACA/USAID 1985). Fertilizers are used

[5]Public investment in agriculture has increased from 1 percent of the public expenditures in 1954, to 10 percent in 1964, to 14 percent in 1974 (FIDA 1989a:li).

exclusively for cash crops, such as potatoes, and especially for such export cash crops as sugarcane and coca.

The state has neglected agricultural research and extension specifically targeted for small-scale production conditions. Of the two major public institutions in charge of agricultural research and technology transfer in the country, IBTA, the Bolivian Agricultural Technology Institute, operates mostly in the highland and valleys (especially the Departments of La Paz and Cochabamba); while CIAT, the Research Center for Tropical Agriculture, works in Santa Cruz. IBTA is underfunded and understaffed. In the mid-1980s, IBTA had 99 extension agents for the estimated 500,000 peasant domestic units in the whole country (FIDA 1989a:174). CIAT, on the other hand, has adequate material and human resources provided by the Department's regional development corporation, as a percentage of its hydrocarbon export revenues. CIAT specializes in large-scale commercial tropical crops. IBTA conducts technical research on food crops.

As a consequence, small farmers are impoverished and increasingly de-capitalized. In the early 1980s, on plots of less than 1 ha, the average yearly per capita income was US$63; farmers with plots smaller than 5 ha had an average income of less than US$108; and farmers with farmland ranging from 5 to 9.9 ha obtained an average annual income of US$120 (FIDA 1989a:11). The average annual per capita rural income in the late 1970s was US$108 (MACA/USAID 1985). Family annual income presented pronounced regional variations: the average family income for Santa Cruz and Tarija was US$1,200, whereas in Chuquisaca, La Paz, and Oruro it was US$400. Yet only those rural households with more than 10 ha were above the line of critical poverty defined on the basis of rural prices. Those households represented only 13 percent of the total rural households (FIDA 1989a:12).

Migration as the Result of an Increasingly Unsustainable Agricultural Production System

The small-farmers' most common response to producing without economic incentives has been to adopt practices that often do lasting harm to the environment. Small-scale agriculture is no longer able to provide for the reproduction of a large segment of peasant families, not even in the short run. Total farm productivity progressively decreases as the land resource base and soil fertility wane, and livestock, valued more for the manure than for the meat or other produce, cannot be properly tended. Farmers then shorten the fallow periods, intensify production of one crop over several years beyond what is appropriate, reduce the diversity of crops intercropped in the fields, and cease using cultural practices that are necessary for the overall efficient operation of agricultural and pastoral production. Then, to make ends meet, they must reallocate labor resources into off-farm employment and away from agriculture, which increases labor demands at the household level. The net result is one more turn in the downward spiral of land resource deterioration and in temporary or permanent migration.

For those farmers whose fields are close to the borders of two ecological zones, bizonal production is an alternative. Farmers from the highland sections of the Chapare and Carrasco

provinces, for instance, often produce in the highlands but also in the lowland sections of the provinces. Sustainable vertical integration of multi-ecological niches is still possible where the privatization of land is not accentuated. This means that it is just a matter of time before it will no longer be feasible. For those other farmers who need to travel long distances to bridge two ecological zones, however, sustainable efficient production in either place may be impossible. In this case, lowland and valley farmers replicate in the lowlands the inability to produce well and to make an adequate living that characterizes their zones of origin.

With yields and soil fertility generally low all over the country, farmers are unable to feed themselves properly from the harvest of their fields, let alone sell surplus produce to meet consumption or cash needs.[6] The combination of periodic climatic variation and the lack of irrigation infrastructure in most of the agricultural lands in the highlands and valleys often results in periods of no production during the annual agricultural cycle. Farmers then need access to other environments for both cash and food to complement their failing economies at home. Farmers from the Mizque and Campero provinces, in Cochabamba, indicated in 1990 that they migrate to Chapare in order to bring back rice, cassava, tropical fruit, and coca leaves (to be chewed during agricultural work, as is customary). Migrants repeatedly send money, rice, and coca to family back home (CEFOIN research data; files of the author).

Most migrants want to continue a livelihood based on agriculture. Unable to find enough land in their zones of origin, they seek land so they can be agriculturalists in the tropics. They also remain peasants at heart in the cities. Out of 1,334 migrants interviewed by Albó et al. in La Paz, 28.3 percent have lands in their communities or somewhere else. Among those who did not have land when they left their communities, 68.5 percent hope to have access to land in the future (Albó et al. 1981).

Most rural-rural migrants simply replicate the small-scale agriculture of their communities of origin.[7] The major difference is that, in addition to still being impoverished in technical and

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[6]The droughts that crippled agricultural production in most of the highlands and valleys during the 1980s have only worsened this situation that stems from the structure of the economy.

[7]While adopting a strategy of parallel exploitation of resources in two ecological zones, most farmers do not move from one type of economy to another. Blanes and Flores asserted that migration to Chapare was accompanied by a transformation of migrants from being peasants (*campesinos*) to becoming farmers (*agricultores*). These authors emphasized that the migrants' main economic goal while in their communities of origin was to reproduce the labor force of the peasants' domestic unit, which, they say, characterizes a *campesino* economy. By the time the migrants move to Chapare, on the other hand, their goal is not primarily to reproduce the family labor force but rather to realize profits. Profit and participation in the market of commodities and labor force would characterize the *agricultor* economy (Blanes and Flores 1984:96-97). The fact is, however, that before migrating most farmers have actively participated in a market-oriented, profit-driven economy. *Campesinos* are not isolated in a limbo of a supposedly natural

financial resources, they have to confront completely different ecosystems. Migrants must adjust to new production conditions: coming from a tradition of agriculture in alkaline soils, they must now till acidic soils; being used to a multiple cropping system whose limiting factor is water availability, they must engage in another system in which risks derive from too much water; habitually troubled by droughts, they must now beware of root rot as a result of flooded farmlands. This transition is painful and full of trial-and-errors that seriously debilitate the farmers' economy and damage the environment.

Usually a new process of migration is unleashed in the land settlement areas regardless of whether the migrant is successful. The most successful farmers tend to divert resources away from agriculture and into other sectors of the economy. They perceive that the marginal rate of return to investment in agriculture is below opportunity cost, given unfavorable terms of trade and limited investment opportunities in new technologies.[8] Sometimes these farmers decide to move away, frequently to urban centers, and recruit laborers to sharecrop their lands. Among the less successful farmers, on the other hand, migration is an option but for different reasons. These farmers abandon their tropical lands mostly when they are prone to flooding. Also, in some cases, farmers do not have access to enough labor to clear land of forest, which means they can operate only small productive units.[9] Some farmers may, then, decide to migrate either within the lowlands, in search of better lands, or to cities, looking for nonagricultural opportunities.

In the cities, it is harder for migrants to use the skills that they have developed after years of agricultural work. Rural female migrants, who have more easily transferable skills than rural male migrants, tend to insert themselves more quickly into the receiving urban community. Some of the migrants will establish permanent residence in one city, while some others will migrate either to larger cities, or to rural areas, at least temporarily. Those who stay in the cities will most likely work in the informal sector. Sandóval et al. found that 13.6 percent of the migrants they interviewed in La Paz had lost their access to land, possibly because they either could not fulfill the responsibilities that their communities imposed on them or they had

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economy. In fact, they migrate because they are unable to meet the demands imposed upon them by a market economy. It is not completely true, either, that migrants become *agricultores*, if by that it is meant that Chapare farmers hire wage-laborers. Farmers do hire laborers, mostly for coca harvesting. However, according to the 1989 CERES study, only 58 percent of the farmers interviewed declared that they sometimes hired labor. Eighty-seven percent stated that they regularly use unpaid family labor, and 72 percent indicated that they use non-cash, reciprocal labor exchange (*ayni*) (Painter and Bedoya 1991:23). Furthermore, hired labor is often compensated in kind, with a portion of the agricultural produce.

[8]In the case of coca growing areas, to these disincentives one must add the always present fear of legal and illegal confiscations by police forces.

[9]Using axes and simple tools, an experienced farmer may clear forest up to one hectare a year.

reached economic stability in the city (Sandóval et al. 1987). Ledo, on the other hand, states that some urban-based migrants in Cochabamba periodically participate in an itinerant and transitory rural labor force (Ledo 1990). We are thus confronted with the "urban-dwelling farmers" described in the literature for other latitudes (see Dotson and Dotson 1978; Goodman and Redcliff 1977).

Whether urban- or rural-bound, migrants are coming to terms with two realities: the disintegration of small-scale agriculture, and the peasants' steady incorporation into a continuous semi-proletarianized status. The breakdown of small-scale agriculture is not circumscribed to valleys and highlands, but affects the lowlands as well. Given the limited resources for improved agricultural technology available to farmers in the lowlands, small-scale producers are as economically unprotected in the lowlands as when they were in their communities of origin, even though they now have more land. As small-scale farmers with large landholdings, they are not exempt from economic instability and the specter of necessary outmigration.

Migrants are being inserted into the realm of permanent semi-proletarianization in cities and rural areas. They continue to uphold the ideology of the independent worker: they were self-employed in their communities of origin, and they aspire to being self-employed in the receiving communities, even if to get there they must bear with a hiatus of being wage-laborers. Yet, economic reality shatters the realization of these desires when self-employment ends up being a precarious shelter against open unemployment. Again, this leaves open the door for further migration in order to look for new opportunities.

Migration and the Pattern of Capital Formation

Internal migration is likely to increase, given the pattern of capital accumulation in the country. The present economic recession results from a historical pattern of capital formation. In the 1970s, the price of the minerals that Bolivia exported was exceptionally good, while foreign credit institutions liberally granted loans to the government. The country lived in a decade of artificial bonanza. By the turn of the decade, however, the combination of a decline in the demand for and prices of minerals in the international market, the reduction of credit to the country, an increment in the service payments for foreign debt, and the government's increase in currency printing to meet its needs, threw the country into one of the worst economic crises it has ever experienced.

Bolivia's long established trend of extreme dependence on international finances and markets, and investment in nonproductive activities, was at the root of this crisis. Most of the capital generated by the productive sector (mining, hydrocarbon extraction, agriculture, industry, and related services) is invested in activities that do not contribute to the reproduction or the expansion of the productive apparatus nor do they generate productive employment. Exportation of minerals has traditionally been Bolivia's economic axis. In 1952, large-scale private mines were nationalized, and thus the control over most minerals extracted in the country became the domain of the state. The state, however, has not invested in mining technology maintenance and

improvement nor in the exploration of new mineral deposits. As a result, the state mining has been increasingly de-capitalized and has become technologically obsolete, which has rendered it uncompetitive in the international market. A similar situation is arising with the extraction of hydrocarbon and its derivatives, which is the second most important source of revenues. Only 10 percent of the petroleum earnings is reinvested productively.

The state has consistently invested the surplus originating from productive activities into the nonproductive sector, mainly in commerce and the financial market. Although the accumulated growth of the surplus product increased 5.1 percent (at an average annual rate of .71 percent) between 1980 and 1987, the gross productive investment dropped 62 percent (at an average annual rate of 12.88 percent), and the nonproductive expenditures increased 24.1 percent (at an average annual rate of 3.13 percent). The coefficient of nonproductive expenditures has ranged from 75 percent in 1980 to 88 percent in 1987. As an average, 80 percent of the surplus is diverted to nonproductive disbursements and to importation of goods and services (Villegas and Aguirre 1989:89-96).

The pattern of emphasizing nonproductive investment over productive investment is not restricted to the state, but is a long-established trend among the ruling classes. Nonproductive expenditures include investment in fixed assets in state and private commercial and banking institutions and in the operation of the central government. Nonproductive expenditures are manifested in the consumption of luxury goods by the ruling classes in society, the proliferation of apartment buildings and supermarkets, the adoption of electronic office equipment, the payment of salaries for nonproductive workers, and purchases of goods and services by the government. Between 1980 and 1987, the investment in salaries for nonproductive workers decreased 12 percent, the investment in fixed assets for private and government institutions increased by 3.5 percent, and government expenditures in goods and services expanded by 16 percent. The most striking increment in the nonproductive expenditures, however, is found in the consumption of luxury goods by the dominant groups. The expansion in the expenditures for this category amounts to 221.5 percent The share of luxury consumption in the total nonproductive expenditures has ranged from 12 percent to 30 percent between 1980 and 1987. Its peak points have been 1985 and 1986, with a share of 47 percent and 46 percent of the expenditures, respectively (Villegas and Aguirre 1989:97-104).[10]

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[10]The lesson that the Bolivian dominant groups learned from the 1952 revolution has been to carefully keep a low profile, and generally try to portray themselves as largely a part of the middle class. The dominant groups maintain the ideology of their (supposed) identification with the middle class to defend their own interests. Hence, there is no contradiction in that the class nature of the Bolivian state reflects the supremacy of the middle class in the definition of development policies. The decision to invest in nonproductive activities mirrors such class nature of the state. It has the imprint of the risk-aversion, fast-return, and middle-class-centered investment strategies favored by the middle class: hence, the bulkiness of the state bureaucracy and commercial endeavors that provide economic stability for the middle class, on the one hand, and on the other, the anti-peasant economic state policies that often betray a veiled racism.

Because of this divestment of capital away from the productive sector, the nation has not been able to build a solid base for economic growth. Industry, the essential element for economic expansion, has not been developed. In 1987, 80 percent of the manufacturing industries in the country employed from 1 to 4 persons. These were cottage industries. Industrial production of food, beverages, tobacco, textiles, clothing, and leather goods encompassed 59 percent of industrial production in 1980 and 67 percent in 1988. In the same period, chemical industries represented 3.6 percent and 3.4 percent, respectively, while equipment and machinery amounted to 3.6 percent and 1.57 percent (Aguirre, Pérez, and Villegas 1990:132-136).

In the face of the mid-1980s economic recession, the state adopted several corrective measures consisting of price adjustments, increments in tariffs and taxes, salary freezes, a moratorium on government spending, massive firings of miners and other productive sector workers, drastic reduction of credit to the government sector, increment of credit to the private sector, and the removal of all protective trade barriers.[11] These measures have further debilitated the country's industrial base. Industry has not been able to compete against cheaper imported goods. Thus, in 1985, the production of intermediate goods represented only 58 percent of the 1980 production. In 1988, the production of capital goods (metal products, machinery, and equipment) represented 29 percent of the 1980 production. Only in consumer goods did performance improve (6.47 percent increase between 1985 and 1988). This growth, however, was concentrated in the production of meat, beverages, and tobacco. Milk products and textiles stagnated, while flour milling and production of bakery goods declined. The percentage of the total employed labor force working in industry decreased from 10.3 percent to 7.1 percent between 1980 and 1988 (Aguirre, Pérez, and Villegas 1990:147). Between 1986 and 1990, Figgliozzi, a major bakery, cut its work force from 120 to 12. Two of the most important textile industries have closed down in the late 1980s. Manhattan, a subsidiary of the US shirt company, reduced its labor force from 120 in 1980 to 60 in 1986 (Estes 1988:151).

Bolivia is going through a recession, and the sectors that most contribute to the GDP are still deteriorating. Decreasing at an average annual rate of 2.9 percent, the GDP in 1989 was 6 percent below the 1980 level. The annual average population growth is 2.7 percent, and thus the per capita GDP index has declined at an even faster rate than the GDP: 3.36 percent annually. The only sectors that are currently creating value for the GDP are mineral production, petroleum exploitation, and cocaine production. Mining's contribution to the GDP is dwindling, though, and has fallen from 10.3 percent in 1980, to 6.8 percent in 1985, to 5.2 percent in 1987, and up to 6.7 percent in 1988. The value of production, which amounted to US$753.6 million in 1980, dropped to US$290.1 million in 1988. The overall physical volume of

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Investing in nonproductive activities may seem to benefit the middle class, but in the long run it is suicidal for the country as a whole, including the middle class.

[11]From June 1985 to December 1987, 28,489 miners were fired, 23,118 of them from state-owned mines (Sandóval and Sostres 1989:147, 173)

production in 1988 represented 85 percent of the 1980 figures. The volume of production index for tin, which in 1980 represented 61 percent of the minerals produced, plunged to 29.8 percent in 1987 (its lowest point). Although it subsequently increased, in 1989 it was 38 percent below the 1980 production level (Aguirre, Pérez, and Villegas 1990:78-79).[12]

Petroleum and gas exports are partially offsetting mining export losses. Hydrocarbon's contribution to the GDP increased from 7.12 percent to 7.15 percent between 1980 and 1988. In 1980, petroleum and gas exports amounted to US$245 million; in 1983 they reached a record US$420 million, but then dropped to their lowest point of US$219 million in 1988. Petroleum production declined continuously over the years in the 1980s. In 1988, it amounted to 80 percent of the production of 1980. Gas production, on the other hand, increased during the same period. In 1988, it represented a 21 percent increase over 1980. Gas became the most important source of revenues for the country. The increases in gas production, however, coincided with decreases in price in the late 1980s (US$0.11 per cubic meter in 1980, and US$0.09 per cubic meter in 1988). As a result, the value of gas exports in 1988 (US$214.9 million) represented 97 percent of the 1980 value. Therefore, despite increments in hydrocarbon production, Bolivia's revenues contracted largely because of the changes in international price for hydrocarbon and minerals. The combined contribution of mining and petroleum in 1988 amounted US$492 million, that is, 44.5 percent less than their contribution in 1990 (Aguirre, Pérez, and Villegas 1990:30-33)

Agriculture's contribution to the GDP in the 1980-89 period increased at an average rate of 1.4 percent, and thus it was unable to match the 2.7 percent annual population growth. The share of agropastoral production in the GDP increased from 18.3 percent to 22.4 percent between 1980 and 1988, but understanding this increment requires some caveats. First, it reflects the contraction of the other sectors in the GDP. Second, roughly two-thirds of the increases in this sector have occurred in agriculture, and the remaining in livestock production, fishing, and hunting. Third, most of the increment in agricultural production is due to the production of coca leaves. The gross value of coca production in reference to the gross value of agropastoral production increased from 8 percent in 1980, to 17 percent in 1983, and to 19 percent in 1988 (Table 5). If coca production is held constant, the agricultural sector shows the same features of recession as the rest of the productive sectors (Table 6).

One further caveat is that most of the agricultural growth takes place in the sphere of production for industrial purposes. Agricultural production for the domestic food market increased moderately (2 percent in 1980-88 and 1 percent in 1985-88). This domestic food production growth was centered around tropical products (rice, banana, and cassava), and

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[12]The state policy of diverting capital away from mining has harmed primarily the state-owned mining sector, which has then been displaced by small- and medium-size private mining companies. Yet, even with this de facto privatization of mining, the overall performance of the sector is deteriorating. In the long run, as a result of this state policy, the country has become even more economically vulnerable to changes in the international market.

probably reflects more vigor in the agricultural labor market of the lowland than in that of the valley and highland. Meanwhile, agricultural production for both national and foreign industry increased 7.1 percent between 1980 and 1988 (5.7 percent in the 1985-1988 period). Among the most important products under this category are coca, soy, and coffee, but coca is paramount. The average growth rate for coca is 15.7 percent in the 1980-1988 period (13.4 percent between 1985 and 1988). Agricultural production for foreign industrial markets grew at an average rate of 3.0 percent in the 1980-88 period and 0.1 percent between 1985 and 1988. Agricultural production for the domestic industrial market shows negative growth rates in these periods (-1 percent and -4.2 percent, respectively) (Aguirre, Pérez, and Villegas 1990:110).

Table 5. Gross Value of Agropastoral Production (in Bolivianas of 1990)

Year	Gross Value of Production		Percentage
	Agropastoral (1)	Coca (2)	(2)/(1)
1980	23,135.2	1,789.7	8
1981	25,335.5	2,436.3	10
1982	26,252.2	2,775.1	11
1983	18,442.2	3,137.0	17
1984	24,196.8	3,522.3	15
1985	27,190.4	3,930.7	14
1986	26,846.8	4,362.3	16
1987	28,664.0	4,817.1	17
1988	30,161.7	5,727.0	19

Source: MACA/DIRECO, quoted in Aguirre, Pérez, and Villegas 1990:103.

Table 6. Gross Value of Agropastoral Production (Indexes)

Gross Value of Production	Index 1980=100	Average Growth Rate	
		80-88	85-88
Total	130.4	3.4	3.5
Total without coca	114.5	1.7	1.7

Source: Aguirre, Pérez, and Villegas 1990:107.

Migration and Employment Opportunities

The general directions in which people have migrated at any given time tell us where the money and employment opportunities have been located. Capital investment creates the demand for labor and thus encourages migration. Yet, because Bolivia is highly dependent on the external market's ups and downs, economic development has taken the shape of a series of short-termed sparks. Economic ventures, whether sponsored by the state or private concerns, have been highly speculative, especially in the last 50 years. Capital is invested as in a lottery. How long the labor force can be given employment depends on how long the economic spark lasts.

In the last 40 years, capital investments have been focused in Santa Cruz, La Paz, and Cochabamba, and it is no coincidence that interstate migration is more pronounced in these Departments. These three states receive over two-thirds of the interstate migration in the country (Table 7).

Table 7. Bolivia: Inter-State Permanent Migration

State	Immigration	Outmigration	Net MR	%Imm.	%Outm.
Santa Cruz	135,135	31,996	103,139	27.8	6.6
La Paz	111,898	64 857	47,041	23.0	13.3
Cochabamba	78,345	86,677	-8,332	16.1	17.8
Oruro	51,055	73,795	-22,740	10.5	15.1
Potosí	34,166	107,165	-72,999	7.0	22.0
Chuquisaca	27,735	60,581	-32,846	5.7	12.4
Tarija	22,995	20,407	2,588	4.7	4.2
Beni	13,657	36,111	-22,454	2.8	7.4
Pando	11,707	6,193	5,514	2.4	1.3
Total	486,693	487,782	-1,089	100.0	100.0

Source: Ledo 1990:89, on García-Tornell and Querejazu (1984) data.

People also migrate to the broad areas of the country where most capital investment exists. Between 1950 and the early 1970s, the highland area was the principal destination (26 percent of migrants). La Paz city, the center of the area, was also the center of the state apparatus and the economic life of the country, including banking and trading companies and most of the industries. Therefore, La Paz and the highlands constituted an attraction pole. Land settlement in the tropical lowlands attracted 16.8 percent of migrants, an important population movement, though smaller than the 19.5 percent bound for urban centers in the valleys.

After 1971, the lowlands (12.9 percent) began to receive more migrants than the highlands and valleys. The lowlands experienced considerable public and private investments for the development of large-scale, export-oriented agribusiness, and so in the 1971-76 period, most interzone migrants went to the lowlands. The trend has continued through 1990, but in the late 1970s the subject of capital investment changed from cotton to cocaine, and the migratory flow shifted its target area within the lowlands, from Santa Cruz to tropical Cochabamba.

In the mid-1970s the three ecological regions assimilated roughly one-third each of the interzone migration. If the net transfers (the combined effect of immigration and outmigration) are taken into account, however, the lowlands were net receiving areas of migration from the highlands and valleys. The net transfers were negative for the highlands (-1.44) and valleys (-8.72), but positive for the lowlands (10.86) (Table 8) (Villena 1990:49).

Table 8. Old and Recent Total Internal Migration among Ecozones, 1976 (Percentages)

Residence Zone, 1976	Broad Zone of Origin			Immigration	
	Highlands	Valleys	Lowlands	Total	Net
Highlands					
Total	24.61	12.46	1.28	38.59	13.98
Old	17.07	8.26	.61	26.09	9.02
Recent	7.53	4.19	.67	12.49	4.96
Valleys					
Total	11.92	16.91	2.25	31.42	14.51
Old	7.12	11.28	.90	19.53	8.25
Recent	4.80	5.63	1.34	11.89	6.26
Lowlands					
Total	3.45	10.71	15.39	29.83	14.44
Old	1.39	6.35	8.97	16.85	7.88
Recent	2.06	4.36	6.41	12.98	6.57
Outmigration					
Total	40.03	40.14	18.97	100.00*	---
Old	25.59	25.91	10.50	62.52	---
Recent	14.44	14.27	8.47	37.48	---
Net	15.42	23.23	3.58	---	42.93
Old	8.52	14.63	1.53	---	25.15
Recent	6.91	8.64	2.06	---	17.79

* Total Migrant population: 1,083,436 people.

Source: Villena 1990:270, based on Casanovas 1981.

The development of tropical agriculture in the region of Santa Cruz in the early 1970s increased interzone migration into the lowlands. The state promoted such development with large capital investment and credit for agroindustry. Temporary and permanent migrants were encouraged to incorporate themselves in the expanding workforce necessary for the harvest of

cotton (May-June) and sugarcane (June-October). The pool of seasonal farmworkers in the cotton harvest grew from 7,150 in 1971 to 50,000 in 1973. In the mid-1970s, there were 60,000 cane cutters (Gill 1987:383), and at the peak harvest season in 1976, there were 96,000 migrant farmworkers in Santa Cruz (Rivière d'Arc 1980:158-159). Cotton and sugarcane growers recruited workers from Santa Cruz but also from Cochabamba and Chuquisaca valleys, and the highlands of La Paz, Oruro, and Potosí. Most of the highland and valley migrants returned to their communities of origin after the harvest was completed. Some, however, remained in Santa Cruz to shift from one temporary job to another. By 1980, roughly 90,000 people had established residence in rural provinces of Santa Cruz state (Casanovas 1981; Rivière d'Arc 1980).

In the late 1970s, but especially in the 1980s, the tropical areas of Cochabamba gradually replaced Santa Cruz as the main reception area for interzone migration. This shift was related to the end of the boom in the agroindustry in Santa Cruz, and the beginning of the worst nation-wide economic crisis in the history of Bolivia. The economic growth of the 1970s—stimulated by favorable world prices of oil and minerals, and government-guaranteed external borrowing—came to a halt when conditions in the international market changed. The speculative agroindustry in Santa Cruz, as well as the building enterprises, which characterized the decade, could no longer be sponsored with loans from a government now burdened with a foreign debt of almost $3 billion (Malloy 1987). In the early 1980s the government plunged the country into a process of hyperinflation (estimated at its peak as 20,000 percent yearly). A new boom was sought as an antidote. Among the few options available, growing coca for the production of cocaine became the most immediately profitable. Coca production encouraged a new population movement toward the tropical lowlands.

The interzone migratory flow of the 1980s centered around the provinces of Chapare and Carrasco, in Cochabamba, parts of which are tropical lowlands. Today, 97 percent of the national coca leaf production is in these provinces. Because coca leaf production has been lucrative, large contingents of farmers have migrated temporarily or permanently to Chapare and Carrasco. Several population estimates have been presented for these provinces in the last ten years. The calculation methodologies differed from case to case, and the data are not fully comparable, but they all show an intense population growth in the area (Table 9).

It should be recalled, however, that rural-bound migration accounts for only 37 percent of total migration (Casanovas 1981:54). Most migrants establish temporary or permanent residence in cities, which, as privileged areas for government and private investment, offer hope of employment. Employment opportunities in urban centers have increased faster than in rural areas. Between 1950 and 1976, the overall economically active population grew from 1.3 million to 1.7 million, at an annual rate of 1 percent. The farm labor force grew at a yearly rate

estimated between 0.19 percent and 0.3 percent. During the same period, nonagricultural employment grew at a 3.4 percent rate[13] (Maletta 1980).

Table 9. Population Estimates for the Chapare and Carrasco Provinces of Cochabamba, 1967-1990

Year	Population		Source
	Permanent	Transient	
1967	24,381	n.a.	Blanes and Flores (1982)
1975	32,652	n.a.	INC data, Figueras (1978)
1976	32,836	n.a.	Census Data, Blanes and Flores (1982)
1979	50,000	n.a.	Van Dyke (1980)
1980	40,000	n.a.	OAS (1984)
	42,000	n.a.	Delaine & Van Crowder (1980)
1982	37,459	n.a.	IICA (1982)
	47,070	n.a.	Pool (1982)
	68,000	n.a.	Blanes and Flores (1982)
1983	142,000	n.a.	Blanes and Flores (1984)
1987	61,707	n.a.	Aguiló (1988)
	191,000	n.a.	U.S. Embassy, CIDRE (1988)
	196,000	n.a.	DESFIL, Durana et al. (1987)
	207,185	n.a.	USAID, CIDRE (1988)
	210,000	40,000	Montaño (1987)
	234,000	n.a.	DESFIL, Durana et al. (1987)
	300,000	n.a.	USDEA, CIDRE (1988)
	n.a.	300,000	Zeballos (1987)
1988	208,000	n.a.	CIDRE (1988)
	350,000	n.a.	Aguiló (1988)
1989	50,000	n.a.	Electoral College, Rivera (1990)
	350,000	n.a.	Brackelaire (1989)
	n.a.	175,000	CEDIB (1989)
1990	63,700	27,300	Rivera (1990)

Given the pattern of capital accumulation in Bolivia described in the previous section, urban employment opportunities are found mostly in the service sector. Building, transportation,

[13]Both agricultural and nonagricultural employment grew at a faster pace in the eastern lowland states, and particularly in the Santa Cruz area. Between the 1950 and 1976 population censuses, most of the agricultural employment growth took place in Santa Cruz, Beni, Pando and Tarija. Santa Cruz and Beni increased employment opportunities at a rate of 2.5 percent and 2.2 percent, respectively. Nonagricultural employment in the eastern lowlands expanded at a yearly rate of 4.5 percent. In Santa Cruz, this growth rate was 6.7 percent (FIDA 1989a:138).

and personal services have shown the most growth in employment since the 1950s. In 1976, one-third of the total employment, and two-thirds of the nonagricultural employment, was in the service sector, most notably in public administration and commerce (Maletta 1980). Ten years later, service-sector employment encompassed over 40 percent of the total employment and 75 percent of nonagricultural employment (Table 10).

Table 10. Employed Population by Economic Sector

Sector	Percentage		Average Growth Rate		
	1980	1987	80-87	80-85	85-87
Productive Sector	**72.5**	**67.6**	**-1.41**	**-1.32**	**11.64**
Agriculture	46.5	47.4	-0.15	0.00	-0.52
Mining	4.0	2.0	-9.57	-2.72	-24.66
Petroleum	0.4	0.5	2.90	4.40	-0.74
Manufacture	10.3	7.1	-5.63	-3.65	-10.40
Construction	5.5	2.7	-9.58	-13.30	-0.59
Electricity & Water	0.4	0.5	2.41	3.51	-0.28
Transport & Communication	5.4	7.4	4.07	0.84	12.62
Nonproductive Sector	**27.5**	**32.4**	**1.96**	**1.89**	**2.14**
Trading	7.4	8.2	0.97	0.09	3.19
Banks & Insurance	0.8	0.9	0.51	1.08	-0.89
Public Services	19.3	23.4	2.39	2.58	1.90
Total	**100.0**	**100.0**	**-0.41**	**-0.40**	**-0.46**

Source: Villegas and Aguirre 1989:59.

Migrants seeking an economic refuge in cities, however, do not necessarily involve themselves exclusively in service sector jobs, especially petty itinerant commerce and personal services. In the late 1980s, Bascón et al. estimated that out of an economically active population of 34,600 people in El Alto, a majority worked in the production sector: 52 percent worked in the informal sector (self-employed, employees, helpers, apprentices), and 17.25 percent were industrial workers (14.45 percent as permanent workers). The remainder worked in the service sector, 28.9 percent of them as merchants operating in permanent and moving markets, and 1.7 percent as staff associated with the neighboring airport and customs offices (Bascón et al. 1988). SURPO distinguishes different sets of occupations for male and female household heads in El Alto. Slightly more than half of the male household heads work in the production sector as artisans (38 percent), *operarios* (10 percent), and workers or *jornaleros* (5 percent). The rest work in the service sector as drivers (10 percent), merchants (10 percent), personal service

laborers (8 percent), professionals or technical staff (7 percent), office workers (2 percent), farmers (2 percent), and managers (2 percent). A different occupation distribution is found among female household heads. Only one-fifth of them work in the production sector as artisans (16 percent), *operarias* (2 percent), and workers or *jornaleras* (2 percent). Most of them work in the service sector as merchants (36 percent), personal service laborers, mainly as maids (22 percent), professionals and technical staff (3 percent), and managers (2 percent) (SURPO 1988:80-98).

Urban migrants have been economically compelled to tap into or develop informal sector employment, especially low-paid self-employment. While farm employment growth has kept up with the rural population growth rate of 1 percent, the expansion in nonagricultural employment lags behind the urban population growth of 4.1 percent. Since there is no industrial capacity to absorb the urban migrants, they engage in all kinds of activities that often keep them just slightly above the survival limit. According to the National Statistics Institute, between 16 and 20 percent of the active population in the largest cities of Bolivia fit into the category of open unemployment in 1984 (FIDA 1989a:139; 1989b:295). Yet, remarkably, out of the 285,709 people over seven years old who live in El Alto, only 3 percent declared themselves as laid-off or seeking employment; the rest were occupied in remunerative activities within and without households, or were studying (SURPO 1988). Urban migrants want to and actually become independent workers over time. In both La Paz and Cochabamba, as the migrants age, they commonly set up their own workshops, even if they are gainfully employed as workers or employees. As soon as they become acquainted with the way the market operates, master some urban skills, and save some capital, they move into self-employed activities (Albó et al. 1982; Ledo 1990; Sandóval et al. 1987; Sandóval and Sostres 1989).

Migration and Bolivia's Sectoral and Regional Disintegration

People migrate in search of very limited and highly centralized economic opportunities. Indeed, the opportunities are concentrated in some sectors of the economy, at the expense of others. The extractive and service activities are privileged while the industrial activities are debilitated. Further, most of the opportunities are highly centralized in some geographical areas of the country, particularly the cities of La Paz, Santa Cruz, and Cochabamba. Finally, the opportunities are rather inelastic, and allow for the incorporation of only relatively small segments of the available labor force.

These circumstances witness the fact that the country is artificially divided between a "traditional" and a "modern" sector.[14] This state-sanctioned division has left the country

[14]As we have seen earlier in this paper, there is nothing "natural" about this division. It rather reflects state development policies influenced by lobbying groups and alliances among social classes. The state leads investment in economic sectors, activities, and areas, which then become modern. This is what happened in the 1950s and 1960s to the then "traditional"

socially, regionally, and sectorally disarticulated. Because of this disarticulation, the country's economic development is by bursts, and accumulation is not a constant process. Furthermore, this disarticulation is the most important element influencing labor migration.

Neoclassical models have generally depicted migration within the context of a dualistic pattern of economic development. According to this model, society is divided between a traditional, subsistence-oriented sector, and a modern, capitalist sector. The modern sector is industrialized and urban. The traditional sector is agricultural and rural, has very few investments in capital or technology, and lacks entrepreneurial capacity. The traditional sector is further viewed as having a surplus of labor since part of the labor force could be withdrawn without causing a reduction in the total output (Lewis 1954).

This model postulates that all societies must evolve from being traditional to being modern. The evolution would take place through the development of urban centers and the urbanization of traditional forms of organization, i.e., rural life would modernize. Historically, then, societies would have to go through stages from being traditional, to having a traditional sector coexist with "islands" of modernization, to a complete disappearance and incorporation of the traditional sector into the modern industrial sector.

The evolution from traditional to modern, according to this model, takes for granted a transfer of labor from a low- to a high-productivity sector. Whether temporary or permanent, this labor reallocation will be from rural to urban centers. The model also assumes that migration flows are "naturally" regulated by regional supply and demand for labor, and will occur as long as employment continues to exist in the urban centers (Lewis 1954; Schultz 1971; Sahoda 1968). Migration, then, is viewed in this model not only as "an inevitable concomitant of the development process" (Carvajal and Geithman 1976:207), but as a desirable process of labor redistribution (Lewis 1954).

The neoclassical model of migration does not fully apply in Bolivia or anywhere else. First, Bolivia as a whole is not evolving from traditional to modern. State policies are perpetuating this supposedly transitional period. They are developing certain areas and economic activities at the expense of others. The low-productivity sector remains so because of a lack of state and private investment. In other words, its productivity is low because other sectors have been modernized, not because of supposed "traditionality." Secondly, labor has indeed migrated from a low-productivity sector to a high-productivity sector, but it has not been organically assimilated into the economy of the high-productivity sector. Labor migration has been highly instrumental in individual capital accumulation, but has not resulted in sustained economic development for the country.

Department of Santa Cruz. By the same logic, areas where investment and modernization were considerable in the past, such as the Departments of Potosí and Chuquisaca, are today stagnant and "traditional."

Today, moreover, most authors perceive migration as a process that exacerbates the rural-urban disparities. Far from reducing unemployment and underemployment, migration increases them. Contrary to what the dual-sector model of development predicted, migration flows have increased despite growing urban labor surplus and decreasing real urban wages. "Migration substantially in excess of new job opportunities is both a symptom of and a factor contributing to Third World underdevelopment" (Todaro 1976:362).

Disarticulation, and therefore migration, is not casual nor devoid of profound negative consequences. Myopic food policies, by debilitating small-scale agriculture, have forced farmers to migrate. All of the landmarks in the history of migration in Bolivia in the last 50 years are associated with explicit state economic policies. They have directly or indirectly promoted the transformation of the population composition in vast areas of the country. These policies were first adopted in the early 1950s and have been carried out ever since, with surprisingly few variations, by all the administrations regardless of their political leanings. Among these policies, agrarian reform and land settlement and development of the tropics have been the most damaging. They have overlapped and reinforced each other. The dynamics of these twin policies made it necessary for some peasants to seek employment through outmigration, especially in the 1970s and 1980s. The structure of the economy, stemming out of these policies, laid, in turn, the foundations for the economic crisis of the 1980s.

Neither pull nor push factors sufficiently explain migration. Push factors are poverty, low commodity pricing, lack of employment, low agricultural productivity and, often, social unrest; while pull factors are economic opportunities whether expected or real, higher income, improved education, etc. The push/pull explanation emphasizes the decisions of individuals to migrate or stay. Migration is analyzed as "the result of purposeful behavior" (Schultz 1971:158). Migrants are perceived as economic people who act rationally to minimize costs and who can freely choose among different options. Yet, the individual migrant's motives are determined within an environment of objective social factors (Flinn 1966:6).

Land tenure systems, unfavorable terms of trade, and labor surplus (Shaw 1974) historically condition push and pull. These conditions set the stage in which migration takes place and influence the individual's decision to migrate. The gender and age of the migrant, and the direction and pattern of migration are all determined by the structure of the economy. The assumption that migrants can freely choose among different possible alternatives is not accurate. Their choice is guided by policies that determine the system of land tenure, commodity pricing, wage levels, employment options, exchange rates, allocation of credit, type of public investment, promotion of industrialization, fiscal incentives for domestic and foreign investors, and public support for the development or transfer of technology.

Institutional interventions aimed at dealing with migration ought to avoid seeking solutions only in the agricultural sector. They must acknowledge the need for essential transformations in the rest of the economy. They must be geared at gradually establishing the sectoral and regional integration that the country currently lacks. They must attempt to incorporate migrants into productive economic growth. This sort of approach will require

investing in productive activities, particularly supporting the development of the industrial sector throughout the nation as much as the agricultural sector. It will also require reestablishing a balance between production for export (foreign exchange earning) and production for domestic consumption (food self-reliance). Institutional interventions, then, should emphasize productive investment in all sectors of the economy, and income distribution as a means to increase the aggregate demand.

The conditions that encourage people to migrate are not likely to improve in the near future. Small-scale agriculture in the highlands, valleys, and lowlands is becoming increasingly tenuous, and economic opportunities are not much better in cities. Migrants will remain in one place until their access to food and cash are exhausted. Then they will migrate somewhere else. Migration will create and exacerbate problems in both the sending and receiving areas.

Conclusion

Migration to cities or lowlands is not a stable and self-sustaining solution to regional underdevelopment. Integrated development of all sectors and regions is the only serious way to deal with it.

In each of the following areas of possible intervention, the state has to create the conditions for governmental or private institutions to address these issues effectively.

a. There is an urgent need to invest considerably in the development of technology to overcome stagnation in food-crop production. This technology must be specifically targeted for small-scale producers Land-saving, and yield- and labor-increasing biochemical technology should be favored, instead of mechanization. Biological processes in the expansion of the production potential and the control of pests should be emphasized. Research is needed to increase land-productivity, including irrigation and drought-resistant technology. The state must encourage the modernization of agriculture through the development and diffusion of intermediate technologies.

b. The development of the industry of fertilizers and other agricultural inputs must be strongly encouraged in the country. At the same time, more resources should be allocated to the development of a certified improved seed industry. These efforts should be combined with the formation of massive marketing and distribution networks for these products.

c. Support for agricultural research must be matched with investment in technology transfer systems. The first task of the system should be rendering existing technology available to all regions instead of only to some. A strong agricultural extension service for food-crop producers must be built up.

d. It is necessary to invest in the development of personnel for agricultural technology research and transfer, both within and without the country. Agricultural educational institutions should be boosted with human and financial resources.

e. Agricultural growth depends as much on research and extension as on general rural education. Considerable money must be invested in the development of human resources in the countryside. Programs must be set up to update the rural teachers' pedagogical skills and general knowledge, and provide the infrastructural and operational means for an improved delivery of education.

f. More emphasis must be placed on the development of national food self-reliance. The current policy of indiscriminate food importation is highly unreliable. Also, export-oriented agriculture tends to have regressive effects on both consumption and production, which discriminate against small-scale farmers. Incentives for attaining food self-reliance should be created through favorable commodity and input pricing.

g. Bolivia needs to develop intermediate technology industries both in the countryside and in the urban centers. Research on intermediate technological options for the industrial sector must be coupled with diffusion efforts through extension, management training, and credit programs. Tax and other fiscal incentives should be used to strengthen industry.

h. The state and the private sector must aggressively support internal market development at the regional and national levels. The internal market has expanded during the past 40 years, but today only a small segment of the population can easily purchase goods. By and large, these people prefer imported goods, and thus, there are few incentives for agricultural and industrial producers in the country to invest in product development. Moreover, despite general caloric and other consumption deficiencies, an increase in production of goods may result in a decline in prices, given an inelastic demand. At the same time that production is encouraged to expand, the buying power of rural people should be augmented. This should happen as a result of an increase in the farmers' incomes, through employment generation and diversification, as well as the liberalization of prices for agricultural commodities.

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